RPSEA

Research Partnership to Secure Energy for America

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Section 999

Federal Advisory Committees

Arlington, VA

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SECURE ENERGY FOR AMERICA

The Energy Policy Act of 2005 And Section 999:

Research, development, demonstration, and commercial application of technologies for:

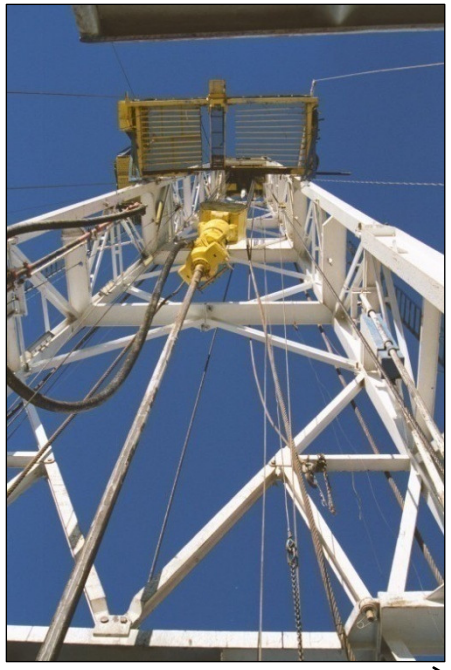
- **Ultra-deepwater – technology and architecture focus**
- **Unconventional natural gas and other petroleum resource exploration and production – resource focus**
- **The technology challenges for small producers by consortia**

All while improving safety and minimizing the environmental impacts of activities within each area, including reduction of greenhouse gas emissions and sequestration of carbon

What is Section 999?

Specifically, the law directs --

- Research, development, demonstration, and commercial application of technologies for ultra-deepwater and unconventional natural gas and other petroleum resource
- Maximize the U.S resource value by:
  - Increasing supply
  - Reducing the cost
  - Increasing E&P efficiency
  - Improving safety and minimizing environmental impacts



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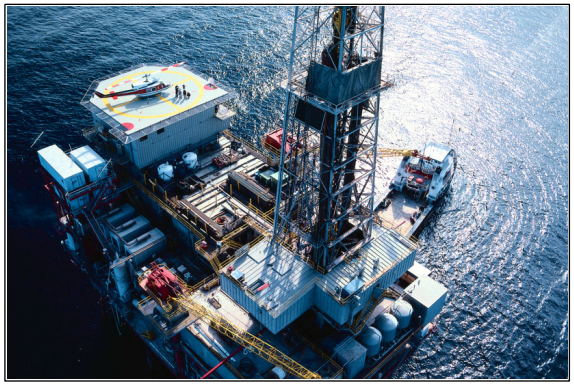
What is the Program's Focus?

The Program has four program elements:



- Ultra-deepwater 35%

  (> 1500 Meters water or

  15,000' OCS drilled depth)

- Unconventional Onshore 32.5%

  (Economic accessibility)

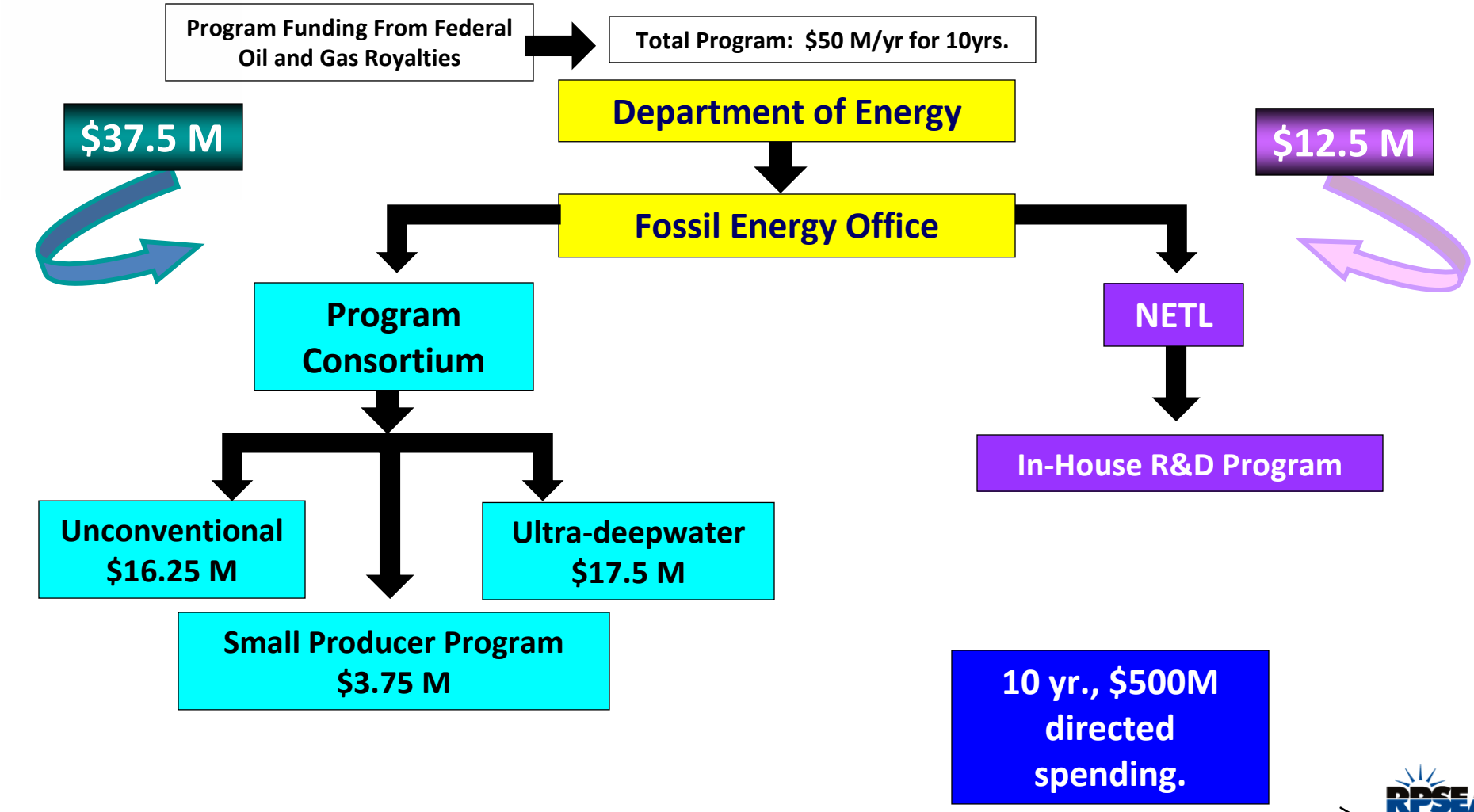
- Small Producers 7.5%

  (< 1000 BOEPD)

- Complementary Program 25%

  Managed by NETL

Current Program Structure/Funding

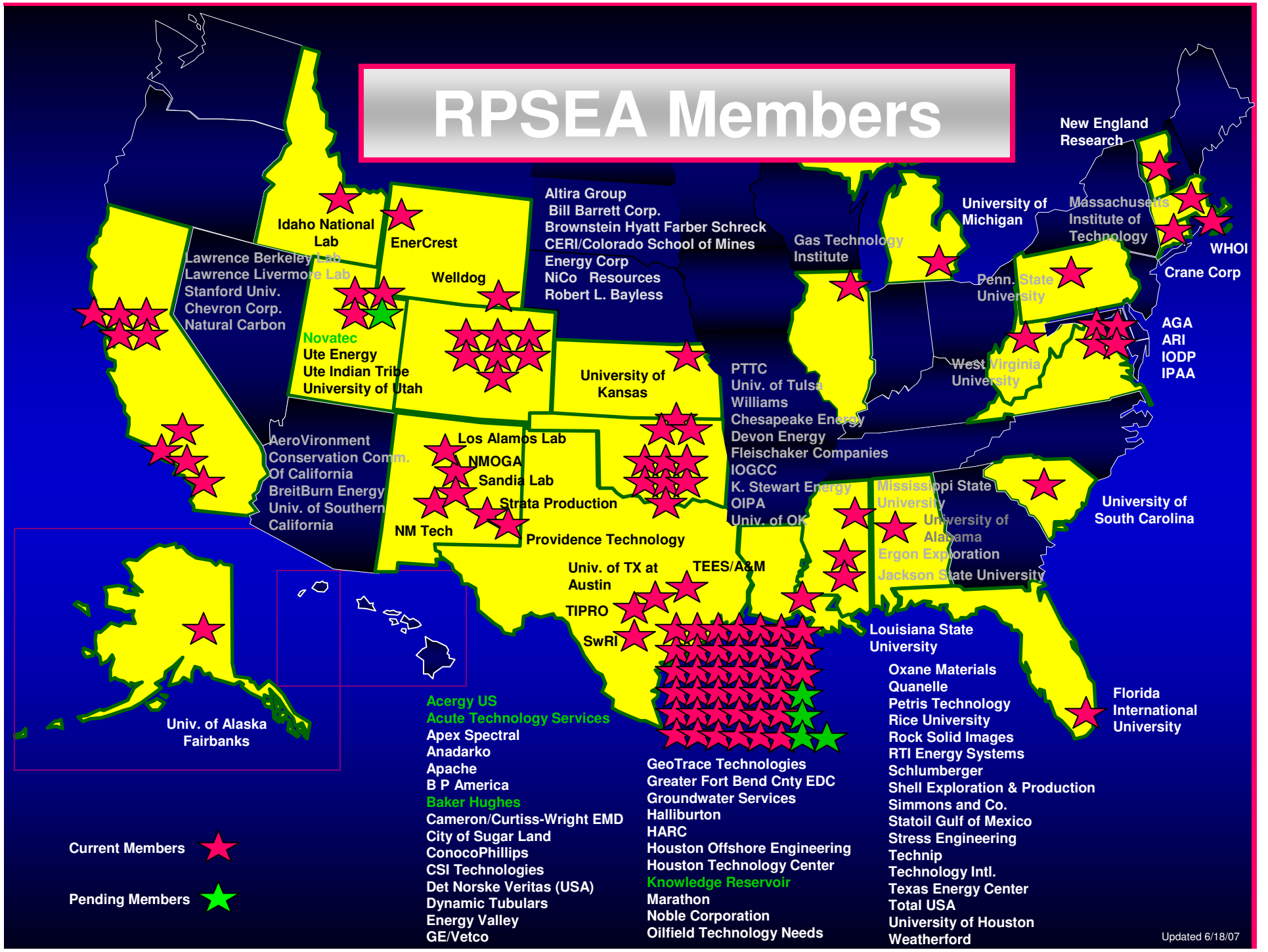


RPSEA Research Partnership to Secure Energy for America

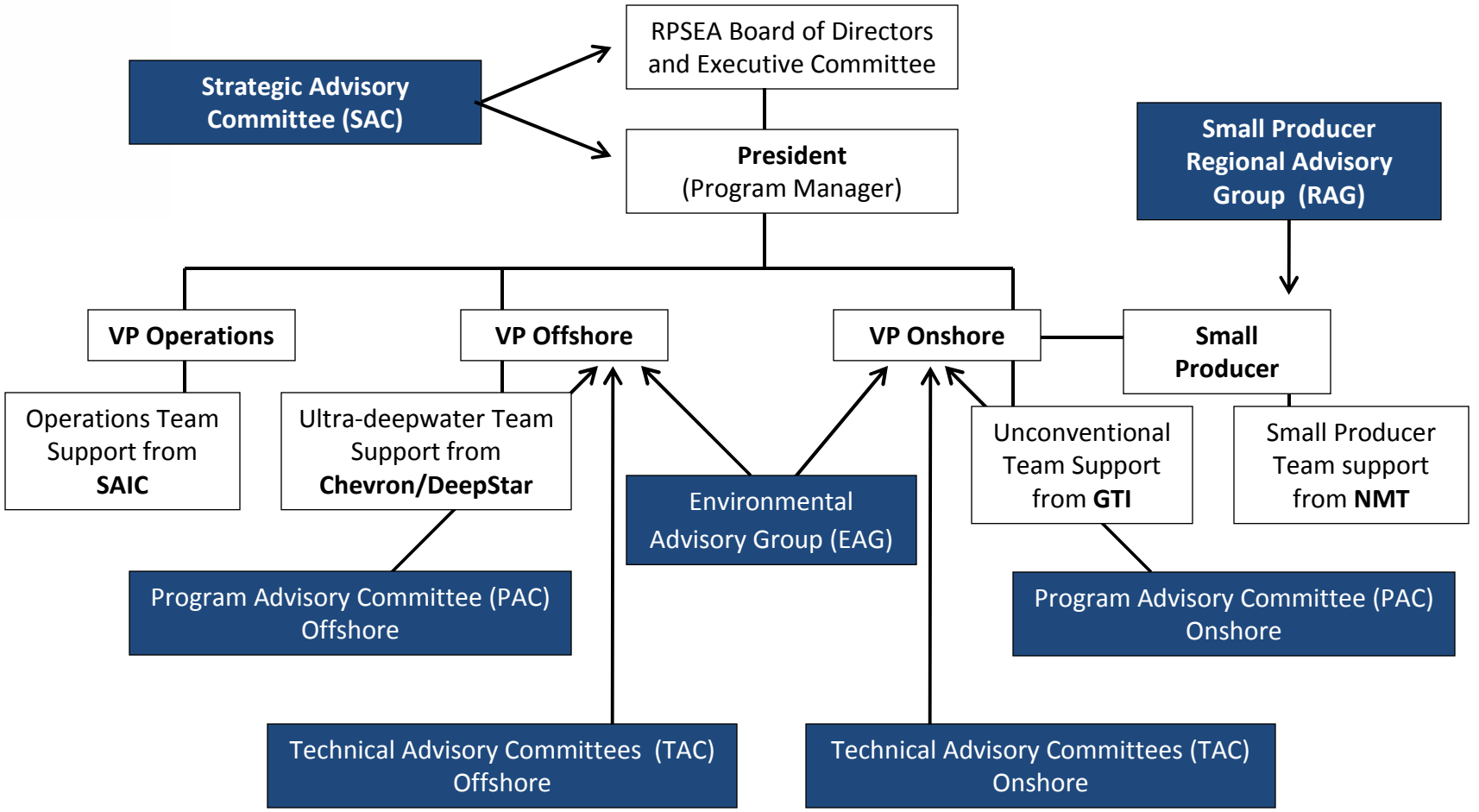
The RPSEA Organization

- A 501(c)3 not for profit
- Competitively selected by DOE as the Section 999 Consortium Manager
- 108 Members and growing

For more information visit www.rpsea.org

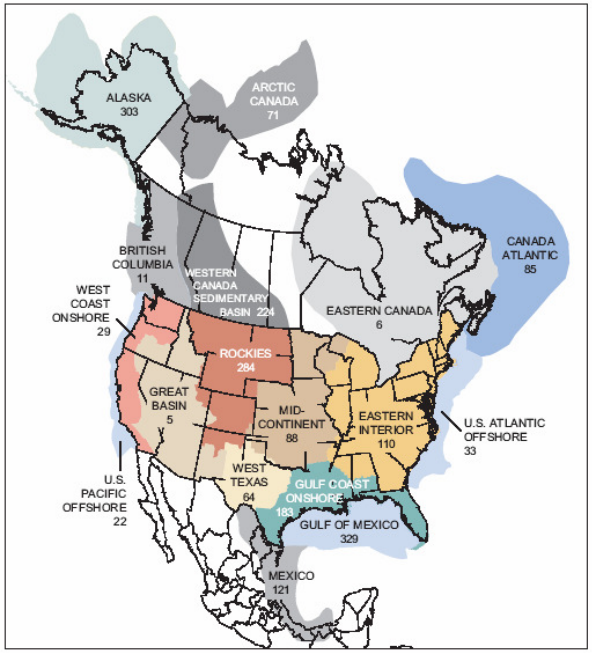

RPSEA Members
Idaho National Lab
EnerCrest
Lawrence Berkeley Lab
Lawrence Livermore Lab
Stanford Univ.
Chevron Corp.
Natural Carbon
Welldog
Novatec
Ute Energy
Ute Indian Tribe
University of Utah
Altira Group
Bill Barrett Corp.
Brownstein Hyatt Farber Schreck
CERI/Colorado School of Mines
Energy Corp
NiCo Resources
Robert L. Bayless
University of Kansas
Gas Technology Institute
University of Michigan
New England Research
Massachusetts Institute of Technology
WHOI
Crane Corp
Penn. State University
AGA
ARI
IODP
IPAA
West Virginia University
PTTC
Univ. of Tulsa
Williams
Chesapeake Energy
Devon Energy
Fleischaker Companies
IOGCC
K. Stewart Energy
OIPA
Univ. of OK
AeroVironment
Conservation Comm. Of California
BreitBurn Energy
Univ. of Southern California
Los Alamos Lab
NMOGA
Sandia Lab
Strata Production
NM Tech
Providence Technology
Univ. of TX at Austin
TEES/A&M
TIPRO
SwRI
Mississippi State University
University of Alabama
Ergon Exploration
Jackson State University
University of South Carolina
Louisiana State University
Florida International University
Univ. of Alaska Fairbanks
Acergy US
Acute Technology Services
Apex Spectral
Anadarko
Apache
B P America
Baker Hughes
Cameron/Curtiss-Wright EMD
City of Sugar Land
ConocoPhillips
CSI Technologies
Det Norske Veritas (USA)
Dynamic Tubulars
Energy Valley
GE/Vetco
GeoTrace Technologies
Greater Fort Bend Cnty EDC
Groundwater Services
Halliburton
HARC
Houston Offshore Engineering
Houston Technology Center
Knowledge Reservoir
Marathon
Noble Corporation
Oilfield Technology Needs
Oxane Materials
Quanelle
Petris Technology
Rice University
Rock Solid Images
RTI Energy Systems
Schlumberger
Shell Exploration & Production
Simmons and Co.
Statoil Gulf of Mexico
Stress Engineering
Technip
Technology Intl.
Texas Energy Center
Total USA
University of Houston
Weatherford
Current Members
Pending Members
Updated 6/18/07

A Small Organization, A Large Network

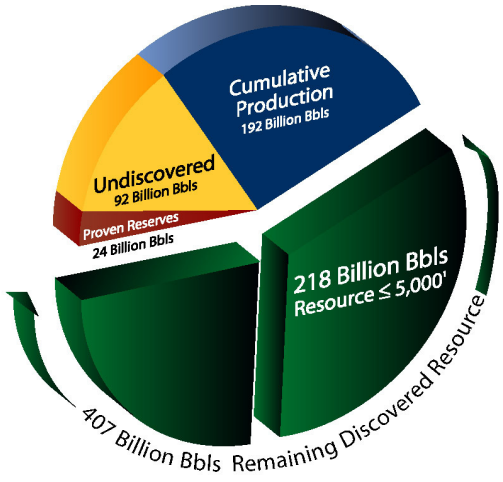


Well over 1,000 experts have participated in this process!

The Resources



NPC 2003 Technical Resources (TCF)



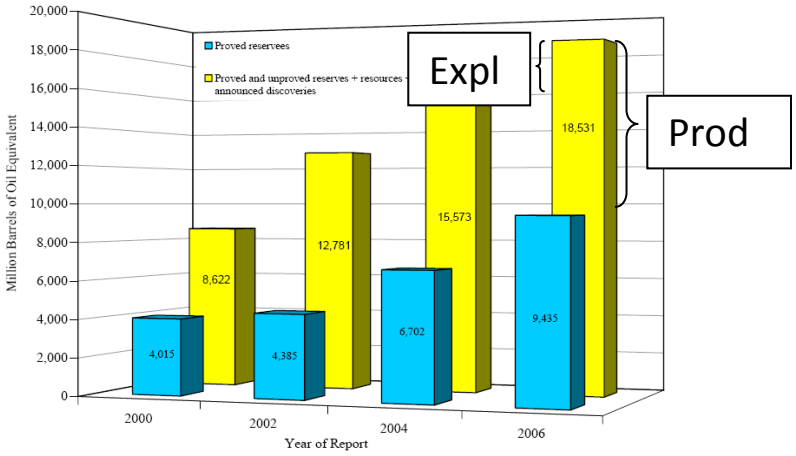


Figure 78. Comparison of 2000, 2002, 2004, and 2006 deepwater GOM reports: successive increases in deepwater BOE.

RPSEA Research Partnership to Secure Energy for America

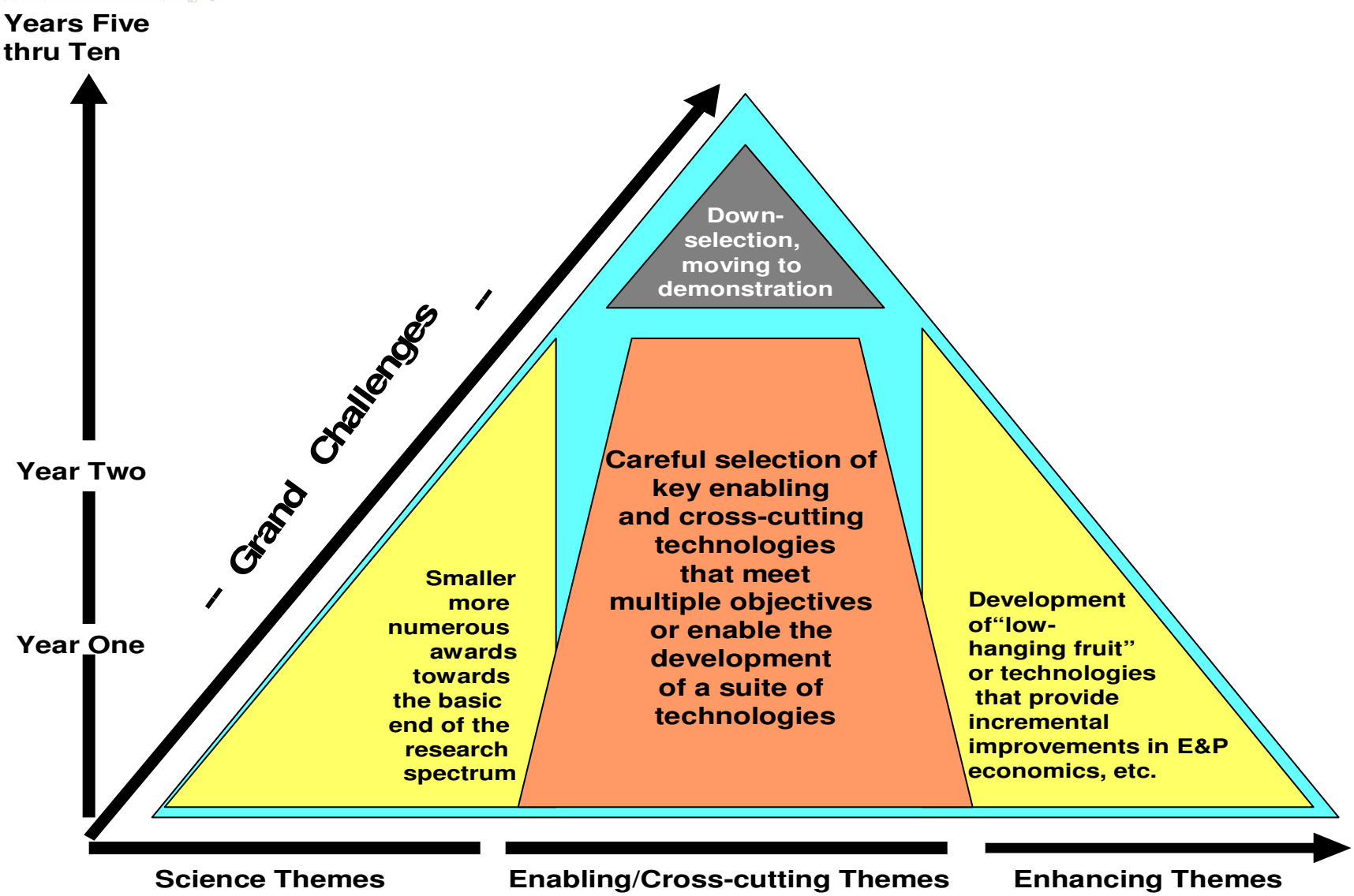
The RPSEA Process and Input Member Forums

- *Louisiana State University, Groundwater Protection*
  - *Wellbore Integrity & Environmental Topics Forum (pending August 23, 2007)*
- *University of Houston*
  - *Seismic E&P Forum, October 10, 2006*
- *Massachusetts Institute of Technology & Schlumberger*
  - *Autonomous Intervention for Deepwater O&G Operations Forum, October 31, 2006*
- *Colorado School of Mines*
  - *Tight Gas, Shale Gas & Coalbed Methane Forum, November 14, 2006*
- *University of Southern California*
  - *Problem Identification Forum, November 29, 2006*
- *University of Oklahoma*
  - *Shale Gas Forum, December 5, 2006*
- *New Mexico Institute of Mining and Technology*
  - *Produced Water Forum, December 14, 2006*
- *New Mexico Institute of Mining and Technology*
  - *Small Producer Forum, December 15, 2006*
- *Massachusetts Institute of Technology & Chevron*
  - *Vortex Induced Vibrations Forum, January 12, 2007*
- *University of Tulsa & Halliburton*
  - *Flow Assurance Forum, February 8, 2007*
- *West Virginia University & NRCCE*
  - *Unconventional Plays & Research Needs for Appalachian Basin Small Producers Forum, February 15, 2007*
- *Texas A&M University & GE*
  - *Seafloor Engineering Forum, March 9, 2007*

The 2007 Draft Annual Plan

- The Draft Annual Plan requires a 2/3 super majority vote of the RPSEA Board of Directors
- This overall process provided multiple input opportunities from well over 1,000 experts
  - Multiple Advisory Committees
  - Member forums
  - Broad member input through meetings
  - DOE et al road mapping workshops
  - NETL consultation throughout

Some General Attributes of the Annual Plan



The RPSEA Process and Draft Annual Plan Basics :

- Today present resources, processes, inputs, and themes by program element
- Focus – 8 major theme areas
  - 4 Ultra-Deepwater field types
  - 3 Unconventional Onshore resource types
  - 1 Small Producer challenge
- Component themes under each major theme are identified
- There are many players in the process!

Some General Attributes of the Annual Plan

- Research should create leverage on
  - Funding, personnel, equipment, operations, and other resources
- Integration is a key to create synergies
  - Make 1+1=3
- Research should be accumulative to mitigate risk and build upon itself
  - Build in multiple time scales for the research plan
  - Allow for failure
  - Leave more legacies than one time projects, and plan for follow on funding
- Focus on short to mid term applied projects
  - Integrate with the NETL complementary program for more basic longer term projects
- Identify opportunities industry can't tackle or are impractical for industry to tackle
- Avoid many small projects which minimizes the potential for high impact